What are the factors that can SPEED UP or SLOW DOWN a Chemical Reaction

With a little bit of chemistry review on the side ☺

Activity A

1. Magnesium is a(n): compound element mixture ion
2.

Test Tube	Observations	Rxn Time
A		
B		
C		

3. Does changing the concentration of the solvent have an impact on the reaction rate? If so, describe the relationship between the concentration and the resulting reaction rate time.

4. Following is the equation for the reaction you just observed:

$$CH_3COOH + Mg \text{ -----}\rightarrow Mg(C_2H_3O_2)_2 + H_2$$

a. This would be classified as a _____ reaction
b. Balance the equation.
c. Count the number of each type of atom for the balanced version of magnesium acetate.

Activity B

5.

Test Tube	Observations
A with MnO_2	
B without MnO_2	

6. Describe the relationship between addition of a catalyst and the resulting reaction rate time.

7. Would the materials in test tube A be considered a solution, suspension, or a colloid? Explain your reasoning.

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8. The manganese dioxide did not actually react with the hydrogen peroxide; it simply acted as a catalyst for the decomposition of hydrogen peroxide. The chemical equation for this reaction is:

$H_2O_2 \dashrightarrow H_2O + O_2$

a. This would be classified as a _____ reaction
b. Balance the equation
c. Hydrogen peroxide is a(n) *ionic or covalent* substance. *(Circle the correct answer)* Explain how you know this.

Activity C

9.

Beaker	Observations	Rxn Time
Hot Water		
Cold Water		

10. Describe the relationship between temperature and the resulting reaction rate time.

11. Why does changing the temperature of the water affect the rate of the reaction?

12. As the temperature of the water changes so does its _____energy.

Activity D

13.

Beaker	Observations	Rxn Time
Full tablet		
Crushed tables		

14. Describe the relationship between surface area and the resulting reaction rate time.

15. Why does changing the surface area of the substance affect the rate of the reaction.

16. Is the decomposition of Alka Seltzer and endothermic or exothermic reaction? Explain your reasoning.